

Rejection of Claims 42, 43 and 46-52

Claims 42, 43 and 46-52 are rejected under 35 U.S.C. § 102(e) as being anticipated by, or in the alternative under 35 U.S.C. § 103(a) as being obvious over U.S. Patent No. 6,254,990 to Ishizaki et al. Ishizaki et al. is cited for allegedly disclosing a similar surface crosslinked water-absorbent resin, which the Action contends inherently has the claimed properties.

Initially, it is noted that Ishizaki et al. is not available as a reference to support a rejection under 35 U.S.C. § 103. Section 103(c)(1) specifically states that subject matter developed by another person which qualifies as prior art only under subsections (e), (f) and (g) of Section 102 shall not preclude patentability under Section 103. Ishizaki et al. is available as a reference only under 35 U.S.C. § 102(e). Therefore, an obviousness rejection under 35 U.S.C. § 103(a) cannot be made based on Ishizaki et al.

Ishizaki et al. does not anticipate the claims since Ishizaki et al. does not disclose the ratio of particles having the claimed particle diameter of smaller than 150 μm of not more than 5 wt%, exhibits a water absorption capacity without load of not less than 30 g/g, or the single layer absorption capacity as claimed. Ishizaki et al. produces the water-absorbent resin by a process that is different from the process of the claimed invention, which results in different properties. Specifically, Ishizaki et al. crosslinks the water-absorbent resin by adding a crosslinking agent to a dry water-absorbent resin powder while pulverizing the water-absorbent resin. The pulverization of Ishizaki et al. is carried out while heat treating the water-absorbent resin. See, for example, column 18, lines 10-15 of Ishizaki et al. which specifically discloses that the invention of Ishizaki et al. surface crosslinks the water-absorbent resin powder while the resin powder is pulverized. Examples 1 and 2 in columns

28 and 29 of Ishizaki et al. cited in the Action also disclose pulverizing the water-absorbent resin during the surface crosslinking step.

Appended hereto as Exhibit 1 is a diagram illustrating the crosslinking and pulverizing process of Ishizaki et al. As shown, the water-absorbent resin powder and the crosslinking agent crosslinks the surface of the water-absorbent resin while being pulverized to produce particles having only a portion of the surface being crosslinked. The surface area of the pulverized water-absorbent resin particle along the fracture line of the particles is not crosslinked. This results in particles having surface areas that are crosslinked and surface areas that are not surface crosslinked. Thus, the resulting particles of Ishizaki et al. do not have a uniform crosslinked layer.

Exhibit 1 also depicts the process of the claimed invention which mixes the water-absorbent resin powder and the surface crosslinking agent with heat treatment and without pulverization. This produces a uniform surface crosslinked layer. This is in contrast to the non-uniform surface crosslinked layer of Ishizaki et al. As disclosed on page 7, lines 12-17 of the present specification, the pulverization destroys the surface crosslinked layer which deteriorates the desired properties of the resulting water-absorbent resin. The uniformity of the surface crosslinking treatment is destroyed by the pulverization step of Ishizaki et al. The resulting non-uniform surface crosslinked surface layer lowers the absorption capacity under load and the index of uniform surface treatment.

The resulting water-absorbent resin of Ishizaki et al. does not have the claimed properties as suggested in the Action. Appended hereto is a Declaration by an inventor comparing the properties of the resulting water-absorbent resin produced according to Examples 1 and 2 of Ishizaki et al. with the properties of the water-absorbent resin according to the claimed invention. The simultaneous surface crosslinking and pulverization of Ishizaki

et al. produce a water-absorbing agent having an absorption capacity without load, a single layer absorption capacity under load, and an index of surface uniform treatment that are outside the claimed range of claims 42 and 43. Accordingly, the Declaration demonstrates that the claimed properties are not inherent in the water-absorbent resin of Ishizaki et al.

In view of the above, independent claims 42 and 43 are not anticipated by Ishizaki et al. since Ishizaki et al. does not have the claimed water-absorption capacity without load as in claims 42 and 43, the single layer absorption capacity under load of claim 42, or the index of uniform surface treatment of claim 43.

Claims 46-52 are also allowable for depending from an allowable base claim and for reciting additional features of the invention that are not disclosed or suggested in Ishizaki et al. The Action suggests that the average particle diameter of the water-absorbing agent 1 of Example 1 of Ishizaki et al. is 660 μm . This means that the ratio of the particles having a particle diameter of 660 μm or more is 50% by weight. Therefore, the ratio of particles having a diameter of 600 μm or more is greater than 50% by weight. Accordingly, the ratio of particles having a particle diameter of 600-300 μm and a ratio of particles having a particle diameter of 300-150 μm must be less than 50 wt% based on their combined weight. The same analysis applies for the water-absorbing agent 2 of Example 2 of Ishizaki et al. which discloses an average particle diameter of 640 μm .

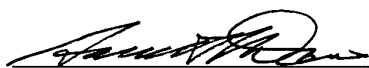
In contrast, claims 46, 47, 51 and 52 of the present application recite the ratio of particles having particle diameters of 600-300 μm is in the range of 65 to 85 wt%, and that the ratio of particles having a particle diameter of 300-150 μm is in the range of 10 to 30 wt%. Thus, the combined weight of particles having particle diameters 600-150 μm is at least 75 wt%. Since the combined weight of particles in Ishizaki et al. within this range is

less than 50 wt%, Ishizaki et al. does not disclose the claimed particle size of the water-absorbent resin.

Claims 48 and 49 depend from claims 42 and 43 to recite the L value of light index. These claims are allowable as depending from an allowable base claim and for reciting this value that is not disclosed or suggested in Ishizaki et al.

In view of the above comments, reconsideration and allowance are requested.

Respectfully submitted,


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